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The opinions and views expressed in the articles contained in this **Bulletin** are those of the writers and cannot be construed as the official opinions or policies of the School of Business.

The Price of Food in Philadelphia, 1941 - 1951

by IRWIN S. HOFFER*

A comparison of the retail price of foods for Philadelphia and the country as a whole, when presented as a component in the United States Bureau of Labor Statistics Consumer Price Index, reveals no significant difference in the relative change in food prices from year to year. The index of food prices for Philadelphia, nevertheless, is generally lower than that for the country as a whole. If prices of individual commodities by groups are compared, certain definite patterns appear in the price differences between Philadelphia and the average for the United States.

THE purpose of this discussion is to compare the price of food in Philadelphia with that in the United States as a whole. The data on which this analysis is based are those which were used by the United States Bureau of Labor Statistics in the construction of its Consumer Price Index during the period just prior to the recent revision of that index. The analysis is based on annual averages of the prices of foods for the years 1941 - 1951. This relatively short period was chosen because price quotations for individual commodities by cities were not available prior to 1941.

In the analysis which follows an attempt is made at a statistical presentation of price changes, price differentials and patterns in those differentials. No attempt is made to explain the factors which entered into those changes, differentials, and patterns beyond pointing out some obvious distinctions between the period of World War II, 1941-1945, and the period following, 1946-1951. The whole analysis is primarily a statistical report, with some classification of the information.

In the construction of the Consumer Price Index for the period under consideration, the prices of fifty-seven foods were secured once a month from a selected sample of stores in fifty-six different cities. An index of the cost of food was computed for each of the cities. These fifty-six indexes were then compiled into a single over-all index of food prices for the country as a whole.

PRICE CHANGES, 1935-1951

Two comparisons are offered in the present treatment. In the first place the index of retail food prices for Philadelphia is compared with that for the country as a whole over a period of time. Since these index numbers are available over a considerable number of years, it is possible to carry our comparison back to 1935 and compare the two series of indexes from 1935 to 1951. The year 1935 was chosen as a beginning since the base period for the indexes was the average for the years 1935-1939. Thus, the base period is included and a simple computation shows, in the case of the index for Philadelphia and of that for the United States, that the average for the base period, 1935-1939, was 100.0 in each instance. The two indexes, along with certain comparisons, are shown in Table I.

It will be noticed that, except for the years 1936 and 1937, the index for Philadelphia was regularly lower than that for the United States. This does not mean that retail food prices in Philadelphia were lower than in the country as a whole for the period 1938-1951. For example, the index in 1943 for the United States was 138.0; while that for Philadelphia was 135.8. These relatives mean, respectively, that retail food prices for the country were 38.0 per cent above prices during the base period for the entire country and those for Philadelphia were 35.8 per cent above base period prices for Philadelphia.

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TABLE 1

Indexes of Retail Food Prices for the United States and Philadelphia, with Relative Changes, 1935-1951

Year	United States Index 1935-39=100.0	United States Point Change†	United States Percentage Change†	Philadelphia Index 1935-39=100.0	Philadelphia Point Change†	Philadelphia Percentage Change†
1935	100.4	..	..	100.1	..	..
1936	101.3	+ 0.9	+ 0.90	102.5	+ 1.4	+ 2.40
1937	105.3	+ 4.0	+ 3.95	105.7	+ 3.2	+ 3.12
1938	97.8	− 7.5	− 7.12	97.2	− 8.5	− 8.04
1939	95.2	− 2.6	− 2.66	94.4	− 2.8	− 2.88
1940	96.6	+ 1.4	+ 1.47	94.1	− 0.3	− 0.32
1941	105.5	+ 8.9	+ 9.21	102.4	+ 8.3	+ 8.82
1942	123.9	+ 18.4	+ 17.44	121.3	+ 18.9	+ 18.46
1943	138.0	+ 14.1	+ 11.38	135.8	+ 14.5	+ 11.95
1944	136.1	− 1.9	− 1.38	134.0	− 1.8	− 1.34
1945	139.1	+ 3.0	+ 3.0	137.1	+ 3.1	+ 2.31
1946	159.6	+ 20.5	+ 14.74	156.8	+ 19.7	+ 14.37
1947	193.8	+ 34.2	+ 21.43	189.2	+ 32.4	+ 20.66
1948	210.2	+ 16.4	+ 8.46	205.3	+ 16.1	+ 8.51
1949	201.9	− 8.3	− 3.95	197.4	− 7.9	− 3.85
1950	204.5	+ 2.6	+ 1.29	201.3	+ 3.9	+ 1.96
1951	227.4	+ 22.9	+ 11.20	223.8	+ 22.5	+ 11.18

Source: Indexes, 1935-1950: United States Bureau of Labor Statistics, **Handbook of Labor Statistics,** 1950 Edition, pp. 100 and 105. Indexes, 1951: United States Bureau of Labor Statistics, **Handbook of Labor Statistics, Supplement,** pp. 37 and 39.

†A plus sign indicates increase; a minus sign, decrease.

These two percentages would be comparable only if base period prices for Philadelphia and for the United States had been equal. Since the actual price quotations for individual commodities have not been published for the years 1935-1939, it is not possible to determine whether the two sets of base period prices were equal. Consequently, it can only be said that, by 1943, retail food prices for the United States as a whole had risen farther from the same period level than had those for Philadelphia.

Similar comparisons may be made for each year in the period covered by the series.

Another interesting comparison between the two indexes presented in Table I may be made by examining the percentage changes from year to year. It is more logical to compare the percentage changes than the point changes. The point changes represent the successive differences in the indexes from year to year. These are not percentage changes since the index for the previous year differed from 100.0 per cent in every year for both indexes. An examination of the percentage changes for the two indexes shows that those changes were fairly uniform for the two indexes. The difference in the percentage changes, except for the years 1936 and 1940 was approximately one percentage point or less.

In 1936 the difference was only 1.5 percentage points. Food prices in Philadelphia rose farther over the previous year than in the country as a whole. In 1940, however, the difference in percentage points is again small—only 1.79. But while food prices for the United States rose about 1.5 per cent over 1939, those in Philadelphia declined slightly. In general, it may be said that the differences in the rate of retail food price changes from year to year between Philadelphia and the United States as a whole were not significant.

One striking characteristic of both indexes, however, for the period under consideration was the sharp change in prices that is shown in both indexes at various times during the period. The lowest level of retail food prices in both cases was experienced in the base period. Following the year 1940, a price rise ensued which became quite sharp in 1942 and continued on into 1943, but at a somewhat slower rate. This rise was occasioned by factors attending the outbreak, in the United States, of World War II. Measures which were enacted in 1943 and continued for the balance of the war period resulted in a stabilization of retail food prices. (Changes during 1944 and 1945 were relatively slight). After price controls were removed at the close of the war, retail food prices again rose sharply to 1947—a rise which continued at a moderate rate into 1948. There was a decline of about four per cent in both indexes in 1949, followed by a slight rise in 1950. Again, in 1951, following the outbreak of the Korean conflict, prices rose by more than eleven per cent above those of 1950 and both indexes stood approximately 125 per cent above their respective prewar base period levels.

Price Comparisons by Commodities and Commodity Groups

A second comparison between Philadelphia retail food prices and those for the United States is afforded by comparing the prices of individual commodities in Philadelphia with those for the country as a whole. Average annual prices of individual foods were compared year by year for the period 1941-1951. Although fifty-seven foods were included in the computation of the Consumer Price Index, occasionally annual data were not available for Philadelphia because of insufficient reports or the absence of some foods from the markets because of seasonal variation in supplies. Accordingly, this comparison between the prices of specific goods, over the period named above, was based on an average of only forty-seven items—the number of items varying from forty-two in 1946 to fifty-four in 1951.

The method of comparison adopted makes use of an approximation statistical test based on signs and called the sign test. (A technical note subjoined to this discussion explains the test.) The test was applied in the following manner. If the price of butter, for example, was higher in Philadelphia than in the country as a whole, a plus sign was recorded. If the price was lower in Philadelphia, a minus sign was recorded. In cases of equality of price no sign was recorded and that commodity was not counted in the statistical test which was made. The number of plus and minus signs for the entire group of foods for the respective years is shown in Table II.

It will be noted that in the first two years, the number of minus signs is larger, which indicates that more foods were lower in Philadelphia than in the United States. Thus, in 1941, the price was higher in Philadelphia for nineteen

TABLE II

Comparison of Food Prices in Philadelphia and the United States, 1941 - 1951 (Sign Test)

	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
Plus Sign	19	19	23	27	32	26	23	22	23	24	26
Minus Sign	24	26	23	18	14	15	20	21	22	21	25
Difference (Plus Less Minus)	—5	—7	0	9	18	11	3	1	1	3	1

TABLE III

Comparison of Retail Food Prices in Philadelphia and the United States Selected Groups, 1941 - 1951 (Sign Test)

Group	Sign	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
Cereals and Bakery Products	+	4	4	2	3	2	2	3	2	5	3	3
	−	3	3	5	4	3	5	4	4	2	4	2
Meats	+	7	7	10	10	12	10	9	10	7	7	11
	−	4	4	2	2	0	0	2	2	5	5	2
Dairy Products	+	1	0	2	1	2	1	3	2	3	2	2
	−	2	5	2	3	3	3	2	2	1	2	3
Fruits & Vegetables	+	6	6	8	9	13	12	7	6	9	10	8
	−	9	9	9	6	4	3	8	8	6	5	13
Fats and Oils	+	0	1	0	1	2	1	0	1	1	1	0
	−	4	3	3	3	2	2	2	3	3	3	2

Source: Compiled from retail price data on foods, published by the United States Bureau of Labor Statistics in a number of bulletins and press releases.

foods and lower for twenty-four foods than in the United States. These price differences may, however, have been chance differences. The method of sampling was used throughout in the construction of the indexes. The foods selected and priced were a sample of all foods bought by consumers; not every store was visited in the compilation; the fifty-six cities covered in the index for the United States did not include all of the urban centers of the country. So, the element of sampling was employed in at least three different ways and the differences in price recorded may have been chance differences. The statistical test (the sign test) which was applied shows that only in one year, 1945, could the difference have been considered significant and the conclusion drawn that retail food prices were higher in Philadelphia than in the country at large.[1]

It is rather interesting to compare the number of plus and minus signs. Even though the statistical test shows only one significant difference, on a yearly basis, some changes in the difference pattern occurred during the period. In the first two years (see Table II) the tendency was for prices of more foods in the sample to be lower in Philadelphia than in the United States; i.e. appreciably more minus than plus signs are recorded. By 1944 this tendency had been reversed and more plus than minus signs are shown. Indeed, by 1945, as the statistical test shows, food prices in Philadelphia were significantly higher than in the country as a whole. After 1946, however, approximately as many foods in the sample were priced higher as were priced lower in Philadelphia, and one may suppose that, on the average, no difference in the retail price of food between Philadelphia and the United States existed. The rather marked differences during the period 1941-1946 may be attributed to the disturbances introduced into the economy by the onset, continuation, and conclusion of World War II. Before accepting these general conclusions, however, the more detailed analysis in the following sections should be examined.

A more detailed analysis of the differences in prices of various foods in the sample may be secured by studying those differences in the eight commodity

[1] See Technical Note for explanation of the statistical conclusion.

groups which were used by the United States Bureau of Labor Statistics. These groups were: cereals and bakery products; meats, poultry, and fish; dairy products; eggs; fruits and vegetables; beverages; fats and oils; and sugar and sweets. (See Table III.) The results of the analysis of price differences for eggs, coffee, and sugar are shown in Table IV.

Cereals and Bakery Products

The number of foods of this group in the sample varied from five to seven and included wheat flour, corn flakes, corn meal, rice, rolled oats, white bread, and vanilla cookies. The price fluctuations of these foods presumably represent the price fluctuations of all items that are used in this category—cereals and bakery products.[2]

In this group of foods no significant difference in prices between Philadelphia and the United States was found in any of the years under survey. As is shown, in the appended technical note a significant difference could occur in a sample size of seven items only if all signs were either plus or minus. In no year were more than five signs out of seven of the same order. Furthermore, no distinct patterns among the signs is revealed. For the war period, 1941-1945, plus signs exceeded minus signs in two years and minus signs were in excess the other three years. (See Table III.) In the postwar period, 1946-1951, minus signs were in excess four years, and plus signs two years. On the whole then, it seems that, on the average, cereals and bakery products as a group were priced pretty much the same in both Philadelphia and the nation in its entirety throughout the years, 1941-1951.

Meats, Poultry and Fish

This group included a sample, in our study, which varied from ten to thirteen items. These items included round steak, rib roast, chuck roast, hamburger, veal cutlets, veal chops, sliced bacon, whole ham, salt pork, leg of lamb, frying chickens, and pink salmon. Frankfurters were added to the list in 1951. The sample size for this group, in our study, varied from ten to thirteen items. In every one of the eleven years under survey there were more plus signs than minus signs. This means that the prices of more foods in this category were higher than were lower in Philadelphia as compared with the United States. In fact, in six of the eleven years the sign test shows that prices in this group were significantly higher in Philadelphia than in the country as a whole. Three of these years were included in the war period and three in the postwar period. One may conclude, therefore, that there is a tendency for meats, as a group, to be higher priced in Philadelphia than in the United States as a whole. The consistency also with which the plus signs prevailed in the sign pattern gives added confidence to the conclusion drawn in the preceding sentence.

Dairy Products

The sample used for this group is limited to five items, namely: butter, cheese, fresh milk (delivered), fresh milk (grocery), and evaporated milk. Ice cream was added to the list in 1951. The sign test cannot be applied to so small a sample. (See technical note appended.) Accordingly, one cannot say whether dairy products as a group were priced significantly higher or lower in Philadelphia than in the United States on the average. The sample size used in this study varied from three to five items. Some indication, however, of a sign pattern exists. During the war period, in each year, more prices were lower in Philadelphia than were higher, except for 1943 in which the prices of two of the groups were higher and two were lower. In one year, 1942, all five of the items in the sample for that year were lower in Philadelphia. This suggests that during the war period dairy products were priced lower in Phila-

[2]The number of items in each of the eight groups has been enlarged in the revised Consumer Price Index; 91 commodities instead of 57 are included in the index as published beginning January, 1953.

delphia. In the postwar period, 1946-1951, in two of the years an excess of plus signs appeared, in two the minus signs were in excess; in the other two years the number of plus and minus signs were equal. This seems to indicate that for the group there is little or no price difference in the postwar period. Although the number of items in the sample was small, some indication is presented that during the war period the prices of dairy products tended to be lower in Philadelphia; in the postwar period the price differences for this group between Philadelphia and the average for the United States likely were only chance differences.

Fruits and Vegetables

The sample in this group included from fourteen to seventeen items, except for 1951, when the list included twenty-one items.[3]

In two of the years, 1945 and 1946, a significant difference in prices was revealed by the sign test. In both years, retail prices of fruits and vegetables, as a group, were definitely higher than in the country as a whole. Moreover, some indication of a price difference pattern is shown for the war period. During the years 1941-1943 more foods in this group were priced lower in Philadelphia, but beginning with 1944 and extending thru 1946 the prices of fruits and vegetables, as a group, turned definitely higher in Philadelphia. The postwar period showed no definite pattern. In some years more commodities were priced higher in Philadelphia. In other years, the opposite was the case.

Fats and Oils

The sample in this group included from two to four foods. They were lard, shortening, salad dressing, and margarine. It may again be stated that for so small a sample the sign test is not valid. However, a definite sign pattern is presented. Except for one year, when the number of plus and minus signs was equal, the minus signs were always in excess. This would seem to indicate that this class of foods is priced lower in Philadelphia than in the country as a whole. In fact, something may be said for the consistency with which the minus sign pattern prevailed. This provides some evidence of the tendency toward lower prices for the group in Philadelphia.

Eggs, Coffee, and Sugar

For the remaining three groups of commodities only one price quotation is given in each case. The price of the best-selling grade of eggs was taken to represent the price of all grades. The price of coffee was the representative of all food beverages and white sugar represented the general category of sugars and sweets. The number of quotations and foods has been increased in the revised index in each of these three categories—eggs, beverages, sugars, and sweets.

In Table III the price differential for each year during the period between Philadelphia and the country as a whole is shown as a percentage change from the price, on the average, for the United States.

Eggs. The price of eggs in Philadelphia during the period under survey was consistently above that for the United States, on the average. The percentage varies from 1.7 in 1945 to 9.3 in 1950. Whether any or all of these percentages represent significant differences in the price of eggs between Philadelphia and the United States cannot be determined from the published information. If the actual quotations were given on which the Philadelphia price and the United States price respectively were

[3]The increase in sample size in some of the groups in 1951 came about because the Bureau of Labor Statistics was in the process of revising the Consumer Price Index. An interim index was computed to tie the old index to the revised index which began with January, 1953. In the present study additions to the sample in 1951 reflect in part those interim adjustments. It was thought best to use all the data available in the present study. Accordingly, the list for 1951 includes more items than the earlier years of the period for some of the groups.

TABLE IV

Price Changes for Eggs, Coffee, and Sugar Percentage of United States Average Price 1941 - 1951

Year	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
Eggs	+ 5.0	+ 6.2	+ 3.7	+ 3.7	+ 1.7	+ 3.8	+ 0.8	+ 7.1	+ 6.9	+ 9.3	+ 6.5
Coffee	− 6.4	− 5.3	− 4.3	− 5.6	− 5.2	− 2.6	− 1.5	− 3.5	− 3.6	− 1.9	− 3.3
Sugar	− 3.9	− 4.4	− 2.9	− 3.0	− 3.0	− 3.9	− 3.1	− 5.3	− 4.2	− 3.7	− 3.8

based, it could then be determined by statistical analysis whether the price differences of record represented an actual or a chance difference in the two prices for any one year. This same comment applies also in the case of coffee and sugar. The consistency of the price difference in eggs seems, however, to warrant the conclusion that, for the period under survey, the price of eggs tended to be higher in Philadelphia than in the country as a whole. The price differential seemed to narrow down somewhat during World War II and then to widen out considerably after 1947.

Coffee. The price of coffee in Philadelphia was consistently lower in Philadelphia than in the country as a whole during the period under survey. And the consistency of the difference seems to indicate a lower price for coffee in Philadelphia throughout the period. The price differential was definitely wider during the war period, 1941-1945, the percentage difference ranging from 4.3 to 6.4 per cent. After 1945 the differential was narrower, the range having been from 1.5 to 3.6 per cent.

Sugar. In the case of sugar there also was a consistently lower price for sugar throughout the period on the basis of the stores sampled, which seems to indicate an actual lower price for sugar in Philadelphia as compared with the United States, on the average. No specific pattern in price differential is apparent since the range in percentages during the World War II period is pretty much the same as in the years following that period.

CONCLUSION

Two types of comparison have been presented in this paper. In the first type the change in food prices as a group was compared over a period of years in terms of index numbers. It was pointed out that the relative changes in retail food prices from year to year were pretty much the same in Philadelphia as in the United States, on the average. The fact that for most years the index number for Philadelphia was lower than that for the country as a whole does not mean that average food prices in Philadelphia were consistently and definitely below average food prices for the country.

Some evidence of the relation between the retail price of foods in Philadelphia and that for the country on the average was given in the second part of this paper by examining price comparisons between groups of commodities. For all commodities combined there is little statistical evidence of a significant difference in the average prices. However, an examination of the eight groups of commodities indicates that probably the prices in Philadelphia and the United States were not different on the average for cereals and bakery products, dairy products, and fruits and vegetables. On the other hand there is a distinct likelihood that the prices of meats as a group, and eggs were higher in Philadelphia; and that the prices of fats and oils, coffee, and sugar were lower in Philadelphia than in the country as a whole.

delphia. In the postwar period, 1946-1951, in two of the years an excess of plus signs appeared, in two the minus signs were in excess; in the other two years the number of plus and minus signs were equal. This seems to indicate that for the group there is little or no price difference in the postwar period. Although the number of items in the sample was small, some indication is presented that during the war period the prices of dairy products tended to be lower in Philadelphia; in the postwar period the price differences for this group between Philadelphia and the average for the United States likely were only chance differences.

Fruits and Vegetables

The sample in this group included from fourteen to seventeen items, except for 1951, when the list included twenty-one items.[3]

In two of the years, 1945 and 1946, a significant difference in prices was revealed by the sign test. In both years, retail prices of fruits and vegetables, as a group, were definitely higher than in the country as a whole. Moreover, some indication of a price difference pattern is shown for the war period. During the years 1941-1943 more foods in this group were priced lower in Philadelphia, but beginning with 1944 and extending thru 1946 the prices of fruits and vegetables, as a group, turned definitely higher in Philadelphia. The postwar period showed no definite pattern. In some years more commodities were priced higher in Philadelphia. In other years, the opposite was the case.

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Percentage of United States Average Price
1941 - 1951

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Technical Note

The sign test which was applied in this study makes possible the comparison of two materials or items which were produced under different sets of conditions. In the case of this study the pairs of items compared were the prices in Philadelphia and the country for specific foods. When ties occur, i.e., when both items in any pair are equal they are excluded from the test, the difference between the two items (prices) is always taken in the same direction. (In this study it was always the price in Philadelphia minus the price in the United States.) In the application of the test the number of plus signs and minus signs are counted. To determine whether a significant difference exists between the two sets of data the following formula is used.[4]

$$T = \frac{2X - 1}{\sqrt{N}} - \sqrt{N}$$

where X represents the larger number of signs and N represents the sum of the number of plus and minus signs. If T is greater than 1.96, the difference between the two sets of data (prices for Philadelphia and for the United States) is significant at the five per cent level. This term "five per cent level" means that if one makes the assertion that a significant difference exists between the two sets of data, he is taking only a five per cent chance of being wrong in his conclusion.[5]

The following table shows the smallest number of signs in a comparison which will yield a significant difference at the 57. level for various sample sizes: N equals sample size; R equals the smaller number of signs. The data are adapted from Table 10, p. 324 in Dixon and Massey and cover only the sample sizes that pertain to the present study. It also shows that sample sizes of less than six do not come under the test.

N	R
6-8	0
9-11	1
12-14	2
15-16	3
17-19	4
20-22	5
42-43	14
44-46	15
47-48	16
49-50	17
51-53	18
54-55	19

[4]Wallis, W. Allen, "Rough and Ready Statistical Tests," **Industrial Quality Control**, Vol. VIII, No. 5, March, 1952, pp. 35-40, especially p. 35.

[5]See Dixon, W. J. and Massey, F. J., Jr. **Introduction to Statistical Analysis**, McGraw-Hill, 1951, pp. 247-254 and Table 10, p. 324.

An Appraisal of the Current Economic Outlook[1]

By HENRY M. M. RICHARDS*

An analysis of the current economic situation, this article points out that a million new families each year will seek shelter. Productivity is on the rise, and with it, per capita personal income continues to grow. In other words, the economy is in good working order. As long as it is kept so, the demand for new homes and for consumer durables must remain high. Given a stable dollar, this can result only in continued prosperity. As if these supports were not strong enough to maintain full employment of the nation's resources, the Federal Government has added and for some time must continue to add a substantial support to our prosperity—support which is not an unmixed blessing, but which, in the nature of international developments long in the making, is inevitable. Under these circumstances, investment by enterprise continues to soar to new records. The props beneath our prosperity are sound. Why be pessimistic?

FEW periods in the history of America have been as productive and as profitable as the months since March 1951. Industrial production and the volume of sales have climbed to new records. Although inroads have been made by taxes and rising costs, corporate profits have exceeded earnings in every period except the fabulous years 1947-50. Personal income after taxes has achieved a new record each year as the national income has continued to grow.

One thing distinguishes this period from other periods of prosperity, especially that from 1947-50. It has been a period of relatively stable prices. In a little more than two years, from March 1951 to May 1953, prices of commodities and services purchased by the consumer have increased overall only 3.3 percent, while prices at wholesale have declined 5.7 percent on the average.

This is a rather remarkable achievement. For a time, it appeared that we were on the horns of the usual 20th century dilemma, faced with the unpleasant prospects of deferring the production of butter for more guns. We were not at all certain that private demand and the requirements of rearmament both could be met in full, at least without further depreciation in the value of the dollar. But for two years, now, we have had both our butter and substantial armaments with a relatively stable dollar. And what is even more significant, the volume of goods and services available for the satisfaction of domestic and private demand is greater than ever. How much of this result has been due to the resurgence of monetary policy as an instrument of economic stability, and how much has been the reward of the far-sighted increase in productive capacity, it is difficult to say. Certainly, both of these factors have made substantial contributions to the achievement of the goal of economic stability — at full employment.

Strangely enough, our almost unparalleled prosperity has been accepted with fear and trepidation. The return of the rate of savings to more normal proportions (about 7 per cent of disposable personal income as reported by the United States Department of Commerce) is said to portend a decline in demand. Inventories are building up and buyers appear not quite so eager as they have been. The farmer is caught in a squeeze of declining prices for his products and a high plateau of prices for the commodities and services he uses. Exports for the first five months of this

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[1]This article is based upon an address presented by the writer at the Seventh Managers Conference of the Pennsylvania Savings and Loan League at Bedford Springs, Pa., June 16, 1953.

TABLE 1

Indexes of Wholesale and Consumer Prices for the United States for March 1951 and May 1953

Wholesale	All	Farm Products	Processed Foods	Other Foods	Textiles	Metals	Junk
March 1951 ..	116.5	117.6	112.0	117.3	115.9	123.2	126.6
May 1953 ..	109.8	97.9	104.4	113.5	97.6	125.4	121.7
Change	−6.7	−19.7	−7.6	−3.8	−18.3	+2.2	−4.9
Per cent Change	−5.7	−16.7	−6.2	−3.2	−15.7	+1.7	−3.8

Consumer	All	Foods	Housing	Apparel
March 1951 ..	110.3	112.0	111.7	106.2
May 1953 ..	114.0	112.1	117.1	104.7
Change	+3.7	+0.1	+5.4	−1.5
Per cent Change	+3.3	−	+4.8	−1.4

Source: Federal Reserve System, **Federal Reserve Bulletin,** March 1952, pps. 311, 312 and July 1953, p. 780, and United States Department of Labor, **Monthly Labor Review,** July 1953, p. 807.

year are off 2.2 per cent from the like period a year ago. The consumer, it is said, is too heavily in debt. In the recent Congress there was sentiment for making substantial reductions in the foreign aid programs, and the Administration is both economy minded and pursuing a restrictive money policy. The truce in Korea presages a decline in military expenditures. All these developments are said to portend a recession. After all, in our history, booms have been followed by busts, and major wars have carried in their wake the seeds of economic depression. As a result, the prophets of doom have been seancing with the ghosts of nine million unemployed. Never before in our history have we been so prosperous and never have we enjoyed our prosperity less.

What are the facts? The pell-mell rush of the consumer for durables and houses regardless of price has abated. A large part of the demand deferred during the depression of the 1930's and during World War II has been satisfied. The war-born foreign demand for American products has largely been met. The initial rearmament demands imposed upon the ecenomy by the Korean War have also been filled, and the program can now — it is said — be "stretched out." The accomplishment of the truce may increase the popularity of the "stretch out" concept. The demand of industry and commerce for more modern and larger facilities to meet the twin challenges of deferred consumer demand and a sudden increase in rearmament is now levelling off as those challenges have been met. In short, those economic factors which represented the unsatisfied demand of prior years and the extraordinary demand stemming from military operations have been largely met. We are now working on current demand. Does this inevitably portend economic recession? Is it impossible to maintain economic activity at full employment without a backlog of demand born of depression and war?

The answer to these compelling questions must be in the negative. The satisfaction of deferred demand does not, per se, inevitably create depression. Our economy is made of sterner stuff, and our current prosperity rests upon a firmer foundation than frustrated demand. The duration of this prosperity depends in the main upon the wisdom of our economic and political decisions, upon the strength of our determination

to prosecute wise decisions, and upon some good fortune. In other words, the economic bases of our prosperity are sound for the long run. All that remains is to build wisely upon these bases.

We do not intend to imply that moderate but temporary adjustments will not occur from time to time. The business cycle is not yet conquered, and our attack upon the problem of the boom and the bust is not yet completely effective. It is still weakened by lack of restraint in the boom phase of the cycle — one of the basic causes of depression — and by the injection of political considerations into our economic decisions. But we have learned a few lessons, and are better equipped to stem the tides of inflation and deflation. Moreover, the factors of demand continue basically strong. A buyers' market is not necessarily synonymous with recession. Developments of the past two years suggest that it can also co-exist with a high level of employment and a high degree of prosperity in the economy as a whole.

THE BASES OF OUR PROSPERITY

Our prosperity rests upon four supports: (1) the demand for homes, (2) the demand for consumer durables, (3) federal demand for goods and services, and (4) expenditures by business for new plant, equipment, and inventories. The degree of our prosperity depends upon the level of these four demands upon our resources. The tenure of our prosperity depends upon the duration of a high level of demand in these four sectors. In each of these, demand is at or near peacetime records. Can these levels be maintained, and if so, for how long, and under what circumstances?

The Demand for Homes

Since the war, more than 7½ million new permanent dwelling units have been started in non-farm areas.[1] This exceeds all previous attempts to house a people. For the fifth consecutive year, we are building new dwelling units at the rate of more than one million a year. The support which this activity affords the economy is of major importance. Not only does the industry employ more than two million workers, but it also stimulates activity in many related lines, as for example, building supplies, and consumer durables and house furnishings. These, in turn, provide stimulus for the remaining private sectors of the economy. In this manner, a high level of home construction sets in motion waves of demand which stir up the economic waters everywhere. So basic an ingredient in the prosperity brew is the construction industry that there can be no nationwide prosperity unless and until the construction industry is busily and prosperously engaged. It may also be said that there can be no nationwide economic depression so long as the construction industry prospers.

Can we continue to build a million new homes a year? If so, for how long? What provides the demand for new homes? Among the basic factors supporting the demand for new homes are (1) the rate of family formation, (2) the level of income, (3) the availability of credit, and (4) the imminence of military service.

While we are catching up with the rate of family formation, the number of families is growing at a rate sufficient to support the construction industry in the foreseeable future at levels not greatly different from current activity. If the population continues to grow throughout the decade at the estimated rate for the past two years, and if the rate of household formation continues near present levels, we shall add about one million new households in each year of the current decade.[2] As life longevity continues to expand — and if employment practices can be altered to permit the older worker to remain on the job

1United States Department of Labor.

2Since 1945, the number of households has increased at the rate of slightly more than one million per year. United States Bureau of Census, **Statistical Abstract**, 1952 p 49.

beyond current compulsory retirement ages, — households inevitably will hold together as spending units longer and the supply of homes from the dissolution of households will fall below the current rate. This, too, will add to the demand for new homes.

Growth in the number of households or families is not sufficient, per se, to support the demand for homes. It must be accompanied by adequate income and by a favorable job outlook. This is a bit like the problem of the chicken and the egg. A high level of income supports the demand for new homes; the demand for new dwellings provides substantial support for industrial activity — which is an essential ingredient in the level of personal income. The problem, then, becomes one of maintaining the other major supports of industrial activity which also determines the level of income. These will be dealt with in a moment. Personal income after taxes reached a new record during the second quarter of this year as more than 97 percent of the civilian labor force continued on the job at average weekly earnings 7.7 percent (in June) above a year ago.[3] In six of the past seven years, personal income after taxes has risen from 9 to 11 percent per annum. The current rate of increase is a little less — nearly 7 percent[4] — but even on a per capita basis, the current level of disposable income is greater than during the last half of 1952, the first half of 1952, and the average for that year.

The number of homes purchased depends in part upon the availability of credit. About half of the nation's homes are encumbered, providing evidence of the importance of credit to this industry. Last year, more than three million loans were made for the purchase of homes and the amount of credit extended exceeded $18 billion, a record. The big lenders, were, of course, the savings and loan associations which provided more than one-third of the total. Commercial banks, insurance companies and mutual savings banks followed in that order of importance. The savings and loan associations have been assuming a growing share of this activity, as competition for the available supply of loanable funds grows apace. This competition has reached such proportions, and has continued for so long a time — more than six years — that money is tight. Yet, given realistic interest rates, there are ample funds available. Notwithstanding a constantly rising level of personal consumption expenditures, personal net saving, according to the Department of Commerce, amounted to $18 billion last year, and, during the first half of this year, was continuing at an annual rate of more than $17 billion, about 17 percent higher than the rate maintained during the first quarter of last year. Nearly $8 billion of these funds were invested or deposited in the savings and loan associations last year, and with a declining withdrawal rate, (60.7 percent in 1952 and 56.8 percent in May, 1953 according to the Home Loan Bank Board) the net addition to the funds of the associations amounted to more than $3 billion. The net inflow of private capital to the savings and loan associations during the first five months of 1953 amounted to $1,435 millions, 24.2 percent greater than a year earlier. Even with greatly restricted excess reserves, the commercial banks recorded $3.6 billion of new farm mortgages last year. The weekly reporting member banks of the Federal Reserve System have added to their real estate loans during 14 of the 20 weeks to May 20, and these loans now exceed last year's figures by nearly half a billion dollars. It was reported recently by the Wall Street Journal that the life insurance companies made $1.4 billion new mortgage loans last year and during the first seven months of 1953 invested a larger percentage of their revenues in mortgage loans than during the same weeks in 1952, and those revenues are running 25 percent ahead of last year's.

[3] Economic Industries, August 1953, p. 11.
[4] Ibid.

An important factor in the urban real estate credit market, of course, is the rate of interest on United States Government securities. The Federal Government is the leading borrower. During the next 52 weeks, it will need more than $85 billion, some of it new funds. During the same period, industry may seek as much as $10 billion of new long-term funds. The consumer will be looking for additional billions — last year he obtained more than $24 billions for the purchase of consumer durables alone — and the urban real estate market may want another $18 billion. Will there be enough to go around? The key factor is the rate on governments. The big lenders in the real estate mortgage market hold substantial quantities of government securities. The savings and loan associations hold $1.7 billion. The commercial banks hold about $60 billion. The mutual savings banks hold $9.5 billion. The insurance companies hold $16 billion. Altogether, these institutions hold $87 billion or nearly 60 percent of the federal debts held by the public. An important consideration to these institutions is their ability to shift their invesments. An unrealistic interest rate pattern on governments already in portfolio freezes them and reduces the volume of funds available to the real estate mortgage market, unless of course the government bond market is supported as fully as it was until March 1951. A pattern of interest rates on governments reflecting the current ratio of the supply of loanable funds to the demand adds an important competitor to the market for loanable funds, especially for the commercial bank and the life insurance company, and, without compensating developments, could reduce the supply of available funds to the real estate mortgage market.

Since March 1951, the pattern of interest rates has been largely unsupported, and interest rates on government securities have risen along with market rates in general, although the issue has scarcely been joined on the long-term rate, as the Treasury has avoided long-term issues to a large extent. More than $65 billion of the federal debt consists of maturities of less than five years — about 45 percent of the marketable debt. If the Treasury decides that its recent trial balloon in long-term issues warrants further ventures in that direction, such issues may prove attractive to investors at the expense of urban real estate credit. An ameliorating factor under these circumstances will be the federal deficit of the next fiscal year or two which will increase the money supply — perhaps even at the expense of stability of the value of the dollar.

The full impact of the interest rate pattern on government securities on the urban real estate mortgage market is understandable only in terms of the institutional pattern of the market. Irrespective of the rate of government securities, the savings and loan associations and the mutual savings banks will, of course, continue to direct the bulk of their funds into the urban real estate mortgage market as is their tradition. The life insurance companies may experience a divergent trend. While they are traditional participants in the urban real estate mortgage field, they are also important lenders to industry and to the Federal Government. They face wider investment alternatives and thus are extremely sensitive to changes in yields. During the postwar years, the life insurance companies shifted their portfolios considerably, reducing their holdings of government securities more than $10 billion for securities of business and industry and for real estate mortgage loans before the Federal Reserve-Treasury accord in 1951. The commercial banks experienced a similar development, their current holdings of governments being only two-thirds of the amount held at the end of the war.

Stress is laid on the participation of the life insurance companies because of their importance to the mortgage market. In 1951 their mortgage purchases ex-

ceeded $5 billion.[5] In the final analysis, the supply of funds available in the urban real estate mortgage market is the supply available in the secondary market — and this supply emanates from the savings and loan associations, the mutual savings banks, the life insurance companies and a few others. Federal attempts to bolster this market especially for insured and guaranteed loans have brought into prominence the activities of "Fannie Mae" (Federal National Mortgage Association) which, of $19.8 billion of non-farm insured and guaranteed mortgage debt outstanding, holds $2.3 billion or 11 percent. The variables in this market are mainly the policies of the life insurance companies and of "Fannie Mae." The former, like the commercial banks, are heavily committed on current receipts and shifting out of government securities at substantial discounts to augment the supply of funds for the mortgage market is bound to be unattractive. But, premium payments continue to grow year after year, and it would appear that these institutions will continue to supply 8 to 10 percent of the funds made available to the market. There would appear also to be little reason to fear the retirement of "Fannie Mae" from the scene. Even though mortgage money, especially for conventional mortgages, is tight in some areas, the Home Loan Bank Board reports that recording of non-farm mortgages of $20,000 or less are running 11 percent ahead of a year ago.

When, in the judgment of the lender, an excessive amount of debt is outstanding, reluctance to aggravate the situation may influence the availability of credit. While this is largely an individual matter, the prevalence of the conviction that the volume of mortgage debt outstanding is greater than is safe may cause widespread caution. The volume of mortgage debt outstanding at the close of 1952 was $19.5 billion, a figure more than four times as great as in 1939. This debt amounts to about $124 per person. Is this excessive? In 1929, the volume of mortgage debt amounted to one-fourth of personal income after taxes. Today, even with substantially higher taxes, that debt amounts to only 8.4 percent of disposable income. With per capita income still on the rise, and with the widespread use of the long-term amortized mortgage, there would appear to be room for the assumption of additional mortgage debt.

The imminence of military service can materially alter the demand for homes. There are about 3.5 million in the armed forces. At present, plans call for at least no material increase in military expenditures. Barring a deterioration in the international situation, it would appear that the number serving in the armed forces will not increase substantially in the foreseeable future. Homemaking and home building can continue with a modicum of interruption at the present level of military operations.

The Demand for Consumer Durables

The second major support of our prosperity is the high level of demand for consumer durables. This is of signal importance, for the level of activity in the durable goods industries also largely measures the difference between general prosperity and depression. Underlying this demand over the past six years has been a backlog of war-born demand together with the appearance on the market of new products such as the television set. A concensus of opinion suggests that this backlog has now largely been satisfied and that we are now deriving demand largely from such current factors as family and household formation, the purchase of homes, and the currently high level of income and employment. Not only are incomes up over last year, but the consumer by and large expects the rise in income to continue. As a result, more families have laid plans to purchase automobiles, furniture and major household appliances than at this time last year, according to the annual survey conducted for the

[5] Life Insurance Fact Book p. 67.

Board of Governors of the Federal Reserve System. An indication of the strength of this demand is evidenced by a 38 percent increase in the registration of new automobiles during the first four months of this year.

The extent to which this demand can be fully expressed depends upon the amount of credit which is made available to the consumer. A very considerable per cent of all the automobiles, and appliances sold at retail involves the extension of credit to the purchaser. Last year, this amounted to more than $24 billion. Since December, another $1.4 billion has been added to the amount of installment consumer credit outstanding, 88 percent representing automobile paper.[6]

Unless and until institutions lending to the consumer reach the conviction that the present amount of consumer credit — especially installment credit — outstanding is a burden greater than the consumer can safely bear, there would appear to be no limit in sight upon the supply of credit available for this purpose. Major lenders in the field are competing actively for funds in order to expand their operations. Leading commercial banks, members of the Federal Reserve System, have outstanding nearly $1.5 billion more of these loans than at this time last year and the volume continues to climb weekly.

Notwithstanding that lending to the consumer goes on apace, the question is being asked with increasing frequency, is the consumer too heavily in debt on an installment basis? At $20.0 billion, consumer installment debt amounts to about 8 percent of personal income after taxes. This is more than twice the percentage which prevailed at the close of 1929, the year usually taken for comparison. But conditions within the economy are substantially different than in that fateful year. This is a modified war economy girded with an array of techniques and plans designed to buffer the economy against a repetition of the great depression. Whether the techniques and plans will succeed, given the return of peace is moot; but peace is not around the corner, and the economy will remain in a semimobilized state for some time, perhaps a long time. As long as this is true, the likely trend of personal income will be upward, and an increasing installment debt burden can be assumed by the consumer with some safety. How much more depends upon the extent of a further rise in the level of disposable income.

Federal Expenditures

Our prosperity stems from a robust demand for new homes, for automobiles, appliances and other consumer durables, and on a high level of expenditures by the Federal Government. Our most intimate relationship with the Federal Government is that of collector and payer of taxes. While it is not intended to minimize the importance to the economy of the role of the Federal Government as a collector of taxes, it must be emphasized that the Federal Government also plays another economic role equally important: It is the largest consumer of goods and services providing as it does for not only our military needs, but also for a portion of the military and economic needs of many other nations. The budget for the current fiscal year exceeds $74 billion. This amounts to more than one-fifth of all the finished goods and all the services produced last year. Not only is the amount significant, but, this has been going on with more or less vigor for 12 years. A not inconsiderable proportion of industry is geared to the satisfaction of the economic demands of the Federal Government, with plant facilities designed for this purpose. This means that a substantial reduction in federal expenditures will bear with greater weight upon the economy than would be the case were federal demand of shorter history. In short, prolonged international tensions have cemented into our economic structure a new determinant of the level of

[6]Federal Reserve Bulletin, July, 1953, p. 762.

prosperity. That is, the level of federal expenditures.

This new relationship has taken on added significance since the outbreak of hostilities in Korea. The program for providing both guns and butter has created surplus plant facilities which can be employed only to the extent of federal economic demand. In other words, private demand can largely be met with a smaller plant than we have built. Yet, it is precisely because we have built these surplus facilities that our resources have been so fully employed since 1950. Now, full employment depends upon their use. This is another way of saying that the level of federal expenditures also measures the difference between full employment and something less.

Federal expenditures have had still another impact upon the economy. They have materially expanded the money supply and have provided the elements responsible for the depreciation in the value of the dollar since 1939. Today's dollar is worth only 54 cents in 1939 dollars, the value of tomorrow's dollar is directly related to federal expenditures. Behind this relationship lurk the facts that (1) wars are not paid for in full when they are fought, and (2) the level of federal expenditures, even in the absence of all-out-war, has exceeded the taxing ability of the government in recent years, and federal deficits have become commonplace. The cash deficit of the recent fiscal year was more than $5 billion and the budgetary deficit was more than $9 billion. Even with emphasis upon economy, the Administration fears its inability to balance the budget for at least another year, and the deficit in the next fiscal year may exceed $5 billion. Federal deficits cheapen the dollar. So long as we spend more than we are willing to pay out of current incomes, we face a continuing challenge to values. Yet, to the extent that we spend less, we face a threat to our prosperity.

How can we escape from this dilemma? We dare not continue recklessly down the road of depreciating values. It is inevitable that we must find the political fortitude and integrity to pay our way as we go. Nor dare we continue to rely indefinitely upon the crutch of large federal expenditures for our prosperity. This, if prolonged, can sap our freedom and destroy our way of life. If the decision is left to us, it must be a gradual reduction of federal participation in economic activity to a less important level.

But, the decision indeed may not be ours to make. Events on the international scene appear to be part of a drama long in the writing, and longer in the enactment. Korea is but a small scene. A truce there does not mean peace elsewhere or the resolution of the basic issues of conflict. It does not even mean peace in Korea. Even though events move swiftly in the atomic era, the scope and nature of the conflict preclude an easy and quick solution.

We face an opponent seeking to replace our empire with another and willing to bide whatever time may be necessary to reach his objective. Empire building is not accomplished quickly. Even with atomic weapons and with the aid of major political errors by the free peoples, his conquest will be long in the making, successful or not. The enemy's goal appears to be nothing less than complete domination of the Eurasia-India landmass. If this is accomplished, his tenacles will reach out to every continent. As the champion of free peoples, we stand in his way. Thus, the issue is joined. This is not a matter of our choosing, and we approach the task with some reluctance. But, the conflict is an inescapable fact and so is the likelihood that it will drag on for a good many years. We shall have to be on our guard for a longer time than any of us cares to envision. A dangerously large military arm will have to be maintained beyond the foreseeable future. Federal expenditures will inevitably continue fantastically high. Perhaps, the best that we can do in the foreseeable future is to resolve to pay our way as we go.

TABLE 2

Total Inventories and Sales of All Business, Manufacturing Firms, Retail Trade, and Department Stores and New Orders Selected Months, December 1951—June 1953 (Millions of dollars, Seasonally Adjusted)

	Total Business		Retail		Manufacturing			Department Store	
	Inventories	Sales	Inventories	Sales	Inventories	Sales	New Orders	Inventories	Sales
December 1951	74,059	42,794	20,754	13,067	43,039	20,962	22,174	119	109
June 1952	72,913	44,395	20,125	14,014	42,892	21,888	25,042	118	111
Change	−1,146	+1,601	− 629	+ 947	− 147	+ 926	+2,868	−1	+2
Percent Change	−1.5	+3.7	−3.0	+7.2	−0.3	+4.4	+12.4	−.8	+1.8
December 1952	74,757	48,023	20,804	14,410	43,824	24,276	24,466	119	115
June 1953	77,550	49,244	21,655	14,505	45,496	26,118	25,112	129	114
Change	+2,793	+1,221	+ 851	+ 95	+1,672	+1,842	+ 646	+10	−1
Percent Change	+3.7	+2.5	+4.0	+0.6	+3.8	+7.5	+2.6	+8.4	− .8

Source: Joint Committee on the Economic Report, **Economic Indicators**, August, 1953, p 19.

Thus, at least, we shall avoid further deterioration in the value of our monetary unit. In any event, the federal prop beneath our prosperity will not likely be removed quickly.

BUSINESS EXPENDITURES

Whatever of the national income is not spent by the consumer and/or by the Federal Government must be spent — or invested — by business if the level of prosperity is to be maintained. If, as it seems, the consumer will spend just as much this year as he did last year, and if no substantial reductions in federal expenditures can be made, continued prosperity will depend upon the level of investment by business. This involves two aspects: (1) the building up or liquidation of inventories, and (2) expenditures for new plant and equipment.

Business inventories stand at an all-time high, but this fact, per se, is not a cause for alarm. Inventories derive their values from their relation to sales. At the end of June total business inventories, seasonally adjusted, were 3.7 percent greater than at the close of the year, while sales were only 2.5 percent larger. This is in contrast to the experience of the first half of last year when inventories fell off 1.5 percent in the face of a 3.7 percent increase in sales. From this, it would appear that while sales continue to climb in physical volume — the wholesale and consumer price indices moved up less than one percentage point during these months — business is creating inventories faster than the rising rate of sales can dispose of them. This can happen at the retail level, or at the manufacturing plant, or at both locations. In this instance, it appears to be taking place at the retail level. Department store inventories have been built up 8.4 percent while sales have declined 0.8 percent. Retail inventories overall are up 4.0 percent while sales are up only 0.6 percent. Manufacturers' inventories have increased 3.8 percent against an increase in sales volume of 7.5 percent. This is perhaps an even better showing than during the first half of 1952, when inventories declined 0.3 percent but sales were up only 4.4 percent. New orders in June, 1953 stood 2.6 percent higher than at the end of last year, although here, the rate of increase is somewhat smaller than last year's 12.4 percent jump during the first six months. Of course, an accumulation of inventories at the retail level ultimately will be felt by the manufacturer. It remains to be seen whether the situation will grow worse. It certainly provides the greatest danger to the smoothly flowing prosperity of the period. With disposable income climbing to new records, and consumer credit still available, sales may well continue to rise. It remains to adjust production to current demand rather than to the now obsolete concept of a large backlog of deferred

demand. Such an adjustment was achieved in 1949. It may well be accomplished again without major disturbance to the economy.

For the fourth successive year, business is spending at a rising rate for new plant and equipment. Overall planned expenditures for the first nine months of this year are 7 percent greater than in the same months last year. The public utilities are spending at a rate of 23 percent above last year's and the manufacturing and commercial industries have also increased their rate of spending. Other industries appear to have passed their peak expenditures, but their rates continue close to last year's records. All this comes in the wake of a series of "stretch-outs" of the defense program which, to date, have had, as their chief impact upon the economy, the creation of more plant facilities for the production of goods for the private sectors of the economy, and a moderate decline in machine tool orders by defense contractors. New construction amounted to $22.0 billion in the first eight months of the year, an increase of 8 percent above last year's, and a record. Since the war, the bulk of business investment has been in modern equipment. Better tools produce a higher real income for the worker, and for industry. Income begets income. Of course, we cannot go on building and modernizing at the rate of the past four years indefinitely. But with a growing population, a rising level of income per capita, hugh federal commitments for national defense, and an unprecedented rate of new discoveries, what basis is there for a reduction in or a cessation of these activities at this time?

CONCLUDING OBSERVATION

This is not to suggest that unwise policies and practices cannot upset the applecart. The continued accumulation of inventories in excess of demand can only result in inventory liquidation with its rather sharp consequences for the economy. Severely restrictive credit policies in a period of economic stability invite unnecessary economic readjustment as surely as does the unwise extension of credit. Yielding to the temptation to cut back government expenditures without regard to the ability of the economy to adjust to the rate of such cutbacks can only bring disaster, just as unilateral disarmament can invite aggression. Nostalgia and political expediency are poor substitutes for an appraisal of the economic forces at work and the balance in which we find them. What is needed is the fortitude to examine the situation objectively and to undertake those policies which wisdom dictates, regardless of prejudice and predilection. If wisdom, fortitude, and restraint prevail, our prosperity can be prolonged and our way of life preserved.

Accounting for Military Research Contracts in Colleges and Universities

By HENRY PIERRE CREED*

A brief description of the principles of cost accounting developed for use by colleges and universities under contracts with the Federal Government, this article concludes that "cost-research" has produced not only a vast contribution to the body of general and specific knowledge, but also has resulted in a vast improvement in methods of accounting used by such institutions.

ACCOUNTING for research expenditures made by colleges and universities was not a significant problem ten years ago. Most research performed prior to 1942 was financed by grants from various private sources such as foundations, bequests and donations. These grants did not require a detailed accounting for the expenses incurred in the performance of the work so financed. However, during World War II and in the years following, the federal government, and more particularly the military services, have called more and more on the large store of knowledge in colleges and universities for assistance in finding the solution to varied and difficult problems. This research actually fell into two general categories (1) fundamental or basic research and (2) the development of prototype equipment, apparatus or procedures in areas of specific interest to the Armed Forces.

The financing of such research had to be done within the framework of existing government regulations and directives, which meant that the college community found itself faced with a cost accounting task much greater than had ever previously been required for their own purposes. In commercial organizations the allocation of expenditures to specific jobs is a fairly routine procedure and it has been widely explored due to the need for the determination of profit. However, in eleemosynary and other institutions not organized for profit such close cost accounting is not necessary and the emphasis is on accounting by source of funds rather than for a profit determination.

Characteristics and Functions of Institutional Accounting

Colleges and universities receive not only income which may be expended for the several institutional operations, but also funds which must be kept intact and invested. Only the income therefrom can be expended in accordance with the wishes, if any, expressed by the donor and agreed to by the institution. Educational institutions also receive gifts and appropriations which may be expended only for certain specified purposes, as, for example, building funds, research projects, books, equipment, scholarships, and so on. The accounts of these funds must be kept in such a way as to provide a separate accounting for each fund which is restricted as to its use, and for the segregation of the balance of such fund from the balances of all other funds.

There are many features of commercial accounting which can be found in educational accounting systems. However, the fundamental objectives of colleges and universities differ from those of commercial enterprises. In the first place, the activities of the latter, obviously, are conducted specifically to provide income to their owners; and their financial accounts and reports are designed to record and report the amount of such income. Educational institutions, on the other hands, are not so conducted and their reports must be de-

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signed to meet needs peculiar to their function. Secondly, the principle prevails in commercial undertakings that a large share of the assets may be used as security for debts of the enterprise. In educational institutions much of the property, and in many cases all of it, may never be used. Thirdly, there is a direct relationship between revenues and expenditures in the business world that is lacking in educational institutions. The first objective of a college or university is service to the community rather than to produce a profit, hence such institutions function in a threefold capacity (1) owner (2) operator and (3) trustee. Their accounts of revenues must be kept so as to provide the information required for each function.

Although the determination of a year-end profit is not normally a concern of educational institutions, it is nevertheless frequently necessary to compute the total cost of the various services performed. Total costs include those expenditures which are readily identifiable as being exclusively related to a particular service, project or department, known as direct costs; plus an appropriate share of expenditures which are incurred on behalf of more than one function or unit of organization, known as indirect costs. Indirect expenses include those for general administration, general expenses applicable to the university as a whole, to libraries, and to maintenance of the physical plant and the like.

In the case of research performed under government cost-reimburseable contracts, the need to determine "total costs" pertaining to a specific project is particularly important. Even though the university does not distribute its indirect costs to the primary functions on the books of account, the problem of recovering expenditures of this nature must be carefully considered and the proper action taken by responsible authorities if the institution is to be intelligently financed.

Expenditures Reimburseable Under Military Cost-type Contracts

A cost-type contract provides for payment to the contractor of allowable costs which are incurred in the performance of the work, to the extent prescribed in the contract. As a rule, the "cost contract" is used primarily with non-profit institutions and contains no provision for payment of a profit or fee, but may provide for a predetermined overhead or burden rate as an allowable item of cost.

Wartime costs of Government contracts administered by educational institutions were determined on the basis of procedures laid down by the individual procuring agencies. These regulations, particularly those of the Army and Navy, were designed for industrial concerns with manufacturing cost systems. It is therefore not surprising that there have been many and important areas of disagreement regarding the amount and types of costs for which the Government was to reimburse educational institutions. As a partial solution to this problem, a set of principles has been developed and agreed to by high echelon officials of the government and their counterparts from various educational institutions. This agreement was never actually published but was circulated in mimeograph form only, entitled "Explanation of Principles for Determination of Costs under Government Research and Development Contracts with Educational Institutions." However, the principles so established were later incorporated into the Armed Services Procurement Regulations, Section XV, part 3.

The statement of principles is obviously not intended to reach into the field of accounting systems. Its purpose is to indicate which type of costs may be considered "admissible," which "inadmissible," and which "subject to limitation as to their admissibility," for the purpose of reimbursement by the Government under research and development contracts.

Direct costs such as material and labor, as a general rule, present rela-

tively few problems and are quite clearly set forth in the statement of principles. Indirect costs, on the other hand, are much more difficult to relate to specific research projects. However, the statement of principles does outline several different bases for apportionment. The most usual basis is a predetermined percentage of direct salaries properly chargeable to the contract. The current practice is to include in the contract a provisional rate for which a negotiated rate is later substituted by amendment after the government has had a chance to complete its audit of the institution's books and records. Generally speaking, a single predetermined rate is applicable to all government contracts with one educational institution for any particular period.

COMPUTATION OF AN OVERHEAD RATE FOR APPLICATION TO CONTRACTS

Even though the basic principles to be followed in determining the rate of overhead in educational institutions have been worked out and agreed to by high echelon officials of the government and the colleges, the actual application of such principles in any specific instance may result in differences of opinion between the institutional accountant and the government auditor. The computation of the rate, as shown in the complete version of the study, follows very closely the method used by a large eastern university and accepted by the resident Navy Cost Auditor. The formula used can be reduced essentially to a mathematical formula, although detailed supporting schedules would, of course, be needed in actual practice. The formula is:

$$\frac{A + B + C + D + E = \text{Rate}}{X}$$

where,

A = Building Use Charge (in lieu of depreciation),

B = Equipment Use Charge (in lieu of depreciation),

C = Operation and Maintenance of Plant,

D = Library expense,

E = Administration and General expense, and

X = Salaries and Wages for instruction and research.

The values of each of the above factors are those which apply only to the functions of instruction and research, after the eliminations and allocations specified in the principles have been met.

Effects of Government Sponsorship of Research on Institutional Accounting Methods

In view of the fact that the statement of principles has gained wide acceptance among college and university business officers, and since such principles can only be applied where books, records and financial reports are kept in a uniform and logical manner; the writer feels that the accounting procedures in colleges and universities with military research contracts have materially improved. No loss - no gain contracts have thus produced an indirect benefit to educational institutions by forcing an improvement in accounting methods which is over and above the substantial contribution to the general fund of knowledge in the sciences.

Philadelphia Business Index

The September 1950 issue of the Bulletin presented a new index of general business conditions in the City of Philadelphia. This series, prepared and since maintained by Robert T. Kline, was designed to reflect economic activity exclusively within the boundary of the city of Philadelphia. It was originally based upon a combination of statistical data representing (1) industrial electric power sales; (2) indexes of employment and employee-hours; (3) department store sales[1]; (4) bank debits[2]; and (5) total construction. Because the method of reporting certain data is under revision by the originating agencies, the change in average weekly hours worked and the monthly change in total employment in the Philadelphia metropolitan area, both prepared by the Pennsylvania Bureau of Employment Security, have been substituted for (2) above. This is a temporary expedient to maintain continuity of the index. The original data series will be restored after revision.

The following table presents the index for the years 1939 through 1952 and by month from October, 1952.[3]

Index of General Business Conditions, City of Philadelphia, 1947=100

Year	Index	1952 Month	Index
1939	73	Oct.	114.5
1940	77	Nov.	113.5
1941	96	Dec.	114.9
1942	99		
1943	106	1953	
1944	106	Jan.	116.5
1945	98	Feb.	115.7
1946	100	Mar.	119.5
1947	100	Apr.	118.5
1948	103	May	124.0
1949	97	June	119.7
1950	108	July	120.6
1951	111	Aug.	119.5p
1952	111	Sept.	118.5e

p=preliminary
e=estimated

[1]The revised index of Department Store Sales, published by the Federal Reserve Bank of Philadelphia, has been used in the composite index since October, 1951.

[2]The revised Wholesale Price Index, all commodities, published by the BLS, is used beginning January, 1952 as a deflationary index for the Bank Debit Series.

[3]Kline, Robert T., "A Measurement of General Business Conditions in the City of Philadelphia." **Economics and Business Bulletin,** School of Business and Public Administration, Temple University, Philadelphia, Pa., September, 1950, pp. 33-40.

Business Alumni Conference

GOVERNMENT'S ROLE IN THE CHANGING ECONOMY is the theme for the Second Annual School of Business Alumni Conference, to be held in Mitten Hall, Friday, November 20, from 2 P.M. to 5 P.M. The program will open with an address by an outstanding professional leader and will be followed by four concurrent panel sessions dealing with specific problems in accounting, management, marketing, and public administration. A coffee hour will be held from 4 P.M. to 5 P.M.

Tickets may be obtained by writing to Mrs. Gertrude S. Schoeppe at the Temple University Alumni House.